

AMENDMENTS TO THE CLAIMS:

1. (currently amended) A method for collecting and separating whole blood into one or more components comprising:

providing a disposable blood separation fluid circuit adapted to cooperate with a reusable separation controller, the fluid circuit including a fluid flow path for communication with a blood source, ~~an initial collection chamber~~ a first container in fluid communication with the fluid flow path and a second container ~~a blood processing chamber~~ in fluid communication with the ~~initial collection~~ first container and the fluid flow path;

connecting the fluid flow path to a blood source;

~~collecting a quantity~~ flowing quantities of whole blood ~~from the source in the initial collection container~~ into said containers;

~~mounting the disposable fluid circuit in association with the reusable controller;~~

processing at least a portion of said quantity of whole ~~the collected blood in the first container~~ through the disposable fluid circuit and the processing chamber to separate it into the desired components ~~and remove~~ for removal of at least a portion of one of said components from the ~~processing chamber~~ first container; and

disconnecting the source from the fluid circuit after flowing said quantities of whole blood into said containers; ~~and at least a portion of one of said components is removed from the processing chamber and before all of the blood in the fluid circuit is processed in the processing chamber.~~

beginning to process at least a portion of the other of said quantities of whole

blood after disconnecting the source.

2. (canceled)

3. (currently amended) The method of claim 1 in which at least one of the containers
~~initial collection chamber~~ includes a quantity of anticoagulant.

4. (currently amended) The method of claim 1 in which about 200-750 ml of whole
blood are collected in flowed into the containers. ~~initial collection chamber.~~

5. (currently amended) The method of claim 1 in which about 500 ml of whole blood are
collected in flowed into the containers. ~~initial collection chamber.~~

6. (currently amended) The method of claim 5 in which a unit of whole blood is
collected in flowed into the containers. ~~initial collection chamber.~~

7. (currently amended) The method of claim 1 including connecting additional collection
~~chambers~~ containers of whole blood to the fluid flow path for processing through the
fluid circuit.

8-9. (canceled)

10. (original) The method of claim 1 in which the blood source is a human.

11-12. (canceled)

13. (original) The method of claim 1 including pooling together blood from other blood sources and flowing the pooled blood into the flow path for processing through the fluid circuit.

14-19. (canceled)

20. (currently amended) A method for collecting and separating whole blood into one or more components comprising:

providing a disposable blood separation fluid circuit adapted to cooperate with a reusable separation controller, the fluid circuit including a fluid flow path for communication with a blood source and a ~~blood processing chamber~~ container in fluid communication with the fluid flow path;

connecting the fluid flow path to a blood source;

~~collecting a quantity~~ flowing quantities of whole blood from the source ~~in~~ into the fluid circuit and the container;

~~mounting the disposable fluid circuit in association with the reusable controller;~~

processing at least a portion of the quantity of whole ~~the collected blood in the~~ container ~~through the disposable fluid circuit and the processing chamber~~ to separate it

into the desired components ~~and remove~~ for removal of at least a portion of one of said components from the ~~processing chamber~~ container; and

disconnecting the source from the fluid circuit after flowing said quantities of whole blood into the fluid circuit and the container; and ~~at least a portion of one of said components is removed from the processing chamber and before all of the blood in the fluid circuit is processed in the processing chamber.~~

beginning to process at least a portion of the quantity of whole blood in the fluid circuit after disconnecting the source.

21. (currently amended) The method of claim 20, wherein the blood from the source is collected in an initial collection container prior to processing in the container. ~~processing chamber.~~

22. (new) The method of claim 1, wherein one of said containers is a processing chamber.

23. (new) The method of claim 1, wherein the fluid circuit includes a clamp associated with the fluid flow path between the blood source and the containers.

24. (new) The method of claim 1, wherein said flowing quantities of whole blood into said containers includes sequentially flowing quantities of whole blood into said containers.

25. (new) The method of claim 1, wherein said flowing quantities of whole blood into said containers includes simultaneously flowing quantities of whole blood into said containers.

26. (new) The method of claim 1, wherein said flowing quantities of whole blood into said containers includes flowing whole blood from one of the containers into the other container.

27. (new) The method of claim 20, wherein said container is a processing chamber.

28. (new) A method for collecting and separating whole blood into one or more components comprising:

- providing a disposable blood separation fluid circuit adapted to cooperate with a reusable separation controller, the fluid circuit including a fluid flow path for communication with a blood source, a container in fluid communication with the fluid flow path, and a blood processing chamber in fluid communication with the container and the fluid flow path;

- connecting the fluid flow path to a blood source;

- flowing a quantity of whole blood into the blood processing chamber;

- flowing another quantity of whole blood into the container;

- processing at least a portion of said quantity of whole blood in the blood

processing chamber to separate it into the desired components for removal of at least a portion of one of said components from the blood processing chamber;

disconnecting the source from the fluid circuit after flowing said another quantity of whole blood into the container; and

beginning to process at least a portion of said another quantity of whole blood after disconnecting the source.

29. (new) The method of claim 28, wherein said flowing a quantity of whole blood into the blood processing chamber and said flowing another quantity of whole blood into the container are performed sequentially.

30. (new) The method of claim 28, wherein said flowing a quantity of whole blood into the blood processing chamber and said flowing another quantity of whole blood into the container are performed simultaneously.

31. (new) The method of claim 28, wherein said flowing a quantity of whole blood into the blood processing chamber includes flowing whole blood from the container into the blood processing chamber.